

A resolution (S. Res. 866) expressing support for the designation of October 2022 as “National Co-Op Month” and commending the cooperative business model and the member-owners, businesses, employees, farmers, ranchers, and practitioners who use the cooperative business model to positively impact the economy and society.

There being no objection, the Senate proceeded to consider the resolution.

Mr. CARDIN. Mr. President, I further ask that the resolution be agreed to, the preamble be agreed to, and the motions to reconsider be considered made and laid upon the table with no intervening action or debate.

The PRESIDING OFFICER. Without objection, it is so ordered.

The resolution (S. Res. 866) was agreed to.

The preamble was agreed to.

(The resolution, with its preamble, is printed in today’s RECORD under “Submitted Resolutions.”)

RELATING TO THE DEATH OF ALAN R. PARKER, FORMER STAFF DIRECTOR AND CHIEF COUNSEL OF THE COMMITTEE ON INDIAN AFFAIRS OF THE SENATE

Mr. CARDIN. Mr. President, I ask unanimous consent that the Senate proceed to the consideration of S. Res. 867, submitted earlier today.

The PRESIDING OFFICER. The clerk will report the resolution by title.

The senior assistant legislative clerk read as follows:

A resolution (S. Res. 867), relating to the death of the Alan R. Parker, former Staff Director and Chief Counsel of the Committee on Indian Affairs of the Senate.

There being no objection, the Senate proceeded to consider the resolution.

Mr. CARDIN. Mr. President, I ask unanimous consent that the resolution be agreed to, the preamble be agreed to, and the motions to reconsider be considered made and laid upon the table with no intervening action or debate.

The PRESIDING OFFICER. Without objection, it is so ordered.

The resolution (S. Res. 867) was agreed to.

The preamble was agreed to.

(The resolution, with its preamble, is printed in today’s RECORD under “Submitted Resolutions.”)

EXPRESSING SUPPORT FOR THE DESIGNATION OF SEPTEMBER 2022 AS SICKLE CELL DISEASE AWARENESS MONTH

Mr. CARDIN. Mr. President, I ask unanimous consent that the Senate proceed to the consideration of S. Res. 868, submitted earlier today.

The PRESIDING OFFICER. The clerk will report the resolution by title.

The senior assistant legislative clerk read as follows:

A resolution (S. Res. 868) expressing support for the designation of September 2022 as

“Sickle Cell Disease Awareness Month” in order to educate communities across the United States about sickle cell disease and the need for research, early detection methods, effective treatments, and preventative care programs with respect to complications from sickle cell disease and conditions related to sickle cell disease.

There being no objection, the Senate proceeded to consider the resolution.

Mr. CARDIN. Mr. President, I ask unanimous consent that the resolution be agreed to, the preamble be agreed to, and the motions to reconsider be considered made and laid upon the table with no intervening action or debate.

The PRESIDING OFFICER. Without objection, it is so ordered.

The resolution (S. Res. 868) was agreed to.

The preamble was agreed to.

(The resolution, with its preamble, is printed in today’s RECORD under “Submitted Resolutions.”)

QUANTUM COMPUTING CYBERSECURITY PREPAREDNESS ACT

Mr. CARDIN. Mr. President, I ask unanimous consent that the Committee on Homeland Security and Governmental Affairs be discharged and the Senate now proceed to the immediate consideration of H.R. 7535.

The PRESIDING OFFICER. The clerk will report the bill by title.

The senior assistant legislative clerk read as follows:

A bill (H.R. 7535) to encourage the migration of Federal Government information technology systems to quantum-resistant cryptography, and for other purposes.

There being no objection, the committee was discharged, and the Senate proceeded to consider the bill.

Mr. CARDIN. Mr. President, I ask unanimous consent that the Hassan substitute amendment, which is at desk, be considered and agreed to; the bill, as amended, be considered read a third time and passed; and the motions to reconsider be considered made and laid upon the table.

The PRESIDING OFFICER. Without objection, it is so ordered.

The amendment (No. 6510), in the nature of a substitute, was agreed to, as follows:

(Purpose: In the nature of a substitute)

Strike all after the enacting clause and insert the following:

SECTION 1. SHORT TITLE.

This Act may be cited as the “Quantum Computing Cybersecurity Preparedness Act”.

SEC. 2. FINDINGS; SENSE OF CONGRESS.

(a) FINDINGS.—Congress finds the following:

(1) Cryptography is essential for the national security of the United States and the functioning of the economy of the United States.

(2) The most widespread encryption protocols today rely on computational limits of classical computers to provide cybersecurity.

(3) Quantum computers might one day have the ability to push computational boundaries, allowing us to solve problems

that have been intractable thus far, such as integer factorization, which is important for encryption.

(4) The rapid progress of quantum computing suggests the potential for adversaries of the United States to steal sensitive encrypted data today using classical computers, and wait until sufficiently powerful quantum systems are available to decrypt it.

(b) SENSE OF CONGRESS.—It is the sense of Congress that—

(1) a strategy for the migration of information technology of the Federal Government to post-quantum cryptography is needed; and

(2) the governmentwide and industrywide approach to post-quantum cryptography should prioritize developing applications, hardware intellectual property, and software that can be easily updated to support cryptographic agility.

SEC. 3. DEFINITIONS.

In this Act:

(1) AGENCY.—The term “agency”—

(A) means any executive department, military department, Government corporation, Government controlled corporation, or other establishment in the executive branch of the Government (including the Executive Office of the President), or any independent regulatory agency; and

(B) does not include—

(i) the Government Accountability Office; or

(ii) the governments of the District of Columbia and of the territories and possessions of the United States, and their various subdivisions.

(2) CLASSICAL COMPUTER.—The term “classical computer” means a device that accepts digital data and manipulates the information based on a program or sequence of instructions for how data is to be processed and encodes information in binary bits that can either be 0s or 1s.

(3) DIRECTOR OF CISA.—The term “Director of CISA” means the Director of the Cybersecurity and Infrastructure Security Agency.

(4) DIRECTOR OF NIST.—The term “Director of NIST” means the Director of the National Institute of Standards and Technology.

(5) DIRECTOR OF OMB.—The term “Director of OMB” means the Director of the Office of Management and Budget.

(6) INFORMATION TECHNOLOGY.—The term “information technology” has the meaning given the term in section 3502 of title 44, United States Code.

(7) NATIONAL SECURITY SYSTEM.—The term “national security system” has the meaning given the term in section 3552 of title 44, United States Code.

(8) POST-QUANTUM CRYPTOGRAPHY.—The term “post-quantum cryptography” means those cryptographic algorithms or methods that are assessed not to be specifically vulnerable to attack by either a quantum computer or classical computer.

(9) QUANTUM COMPUTER.—The term “quantum computer” means a computer that uses the collective properties of quantum states, such as superposition, interference, and entanglement, to perform calculations.

SEC. 4. INVENTORY OF CRYPTOGRAPHIC SYSTEMS; MIGRATION TO POST-QUANTUM CRYPTOGRAPHY.

(a) INVENTORY.—

(1) ESTABLISHMENT.—Not later than 180 days after the date of enactment of this Act, the Director of OMB, in coordination with the National Cyber Director and in consultation with the Director of CISA, shall issue guidance on the migration of information technology to post-quantum cryptography, which shall include at a minimum—

(A) a requirement for each agency to establish and maintain a current inventory of information technology in use by the agency

that is vulnerable to decryption by quantum computers, prioritized using the criteria described in subparagraph (B);

(B) criteria to allow agencies to prioritize their inventory efforts; and

(C) a description of the information required to be reported pursuant to subsection (b).

(2) **ADDITIONAL CONTENT IN GUIDANCE.**—In the guidance established by paragraph (1), the Director of OMB shall include, in addition to the requirements described in that paragraph—

(A) a description of information technology to be prioritized for migration to post-quantum cryptography; and

(B) a process for evaluating progress on migrating information technology to post-quantum cryptography, which shall be automated to the greatest extent practicable.

(3) **PERIODIC UPDATES.**—The Director of OMB shall update the guidance required under paragraph (1) as the Director of OMB determines necessary, in coordination with the National Cyber Director and in consultation with the Director of CISA.

(b) **AGENCY REPORTS.**—Not later than 1 year after the date of enactment of this Act, and on an ongoing basis thereafter, the head of each agency shall provide to the Director of OMB, the Director of CISA, and the National Cyber Director—

(1) the inventory described in subsection (a)(1); and

(2) any other information required to be reported under subsection (a)(1)(C).

(c) **MIGRATION AND ASSESSMENT.**—Not later than 1 year after the date on which the Director of NIST has issued post-quantum cryptography standards, the Director of OMB shall issue guidance requiring each agency to—

(1) prioritize information technology described under subsection (a)(2)(A) for migration to post-quantum cryptography; and

(2) develop a plan to migrate information technology of the agency to post-quantum cryptography consistent with the prioritization under paragraph (1).

(d) **INTEROPERABILITY.**—The Director of OMB shall ensure that the prioritizations made under subsection (c)(1) are assessed and coordinated to ensure interoperability.

(e) **OFFICE OF MANAGEMENT AND BUDGET REPORTS.**—

(1) **REPORT ON POST-QUANTUM CRYPTOGRAPHY.**—Not later than 15 months after the date of enactment of this Act, the Director of OMB, in coordination with the National Cyber Director and in consultation with the Director of CISA, shall submit to the Committee on Homeland Security and Governmental Affairs of the Senate and the Committee on Oversight and Reform of the House of Representatives a report on the following:

(A) A strategy to address the risk posed by the vulnerabilities of information technology of agencies to weakened encryption due to the potential and possible capability of a quantum computer to breach that encryption.

(B) An estimate of the amount of funding needed by agencies to secure the information technology described in subsection (a)(1)(A) from the risk posed by an adversary of the United States using a quantum computer to breach the encryption of the information technology.

(C) A description of Federal civilian executive branch coordination efforts led by the National Institute of Standards and Technology, including timelines, to develop standards for post-quantum cryptography, including any Federal Information Processing Standards developed under chapter 35 of title 44, United States Code, as well as standards developed through voluntary, con-

sensus standards bodies such as the International Organization for Standardization.

(2) **REPORT ON MIGRATION TO POST-QUANTUM CRYPTOGRAPHY IN INFORMATION TECHNOLOGY.**—Not later than 1 year after the date on which the Director of OMB issues guidance under subsection (c)(2), and thereafter until the date that is 5 years after the date on which post-quantum cryptographic standards are issued, the Director of OMB, in coordination with the National Cyber Director and in consultation with the Director of CISA, shall submit to the Committee on Homeland Security and Governmental Affairs of the Senate and the Committee on Oversight and Reform of the House of Representatives, with the report submitted pursuant to section 3553(c) of title 44, United States Code, a report on the progress of agencies in adopting post-quantum cryptography standards.

SEC. 5. EXEMPTION OF NATIONAL SECURITY SYSTEMS.

This Act shall not apply to any national security system.

SEC. 6. DETERMINATION OF BUDGETARY EFFECTS.

The budgetary effects of this Act, for the purpose of complying with the Statutory Pay-As-You-Go Act of 2010, shall be determined by reference to the latest statement titled “Budgetary Effects of PAYGO Legislation” for this Act, submitted for printing in the Congressional Record by the Chairman of the House Budget Committee, provided that such statement has been submitted prior to the vote on passage.

The amendment was ordered to be engrossed and the bill to be read a third time.

The bill was read the third time.

The bill (H.R. 7535), as amended, was passed.

ORDERS FOR MONDAY, DECEMBER 12, 2022

Mr. CARDIN. Mr. President, I ask unanimous consent that when the Senate completes its business today, it adjourns until 3 p.m. on Monday, December 12, and that following the prayer and pledge, the morning hour be deemed expired, the Journal of proceedings be approved to date, the time for the two leaders be reserved for their use later in the day, and morning business be closed; that upon the conclusion of morning business, the Senate proceed to executive session to resume consideration of the Montgomery-Reeves nomination postcloture; further, at 5:30 p.m. all postcloture time be considered expired and the Senate vote on confirmation of the Montgomery-Reeves nomination; finally, if any nominations are confirmed during Monday’s session, the motion to reconsider be considered made and laid upon the table and the President be immediately notified of the Senate’s action.

The PRESIDING OFFICER. Without objection, it is so ordered.

The Senator from Maryland.

NORTH KOREAN HUMAN RIGHTS REAUTHORIZATION ACT OF 2022

Mr. CARDIN. Mr. President, I ask unanimous consent that the Senate proceed to immediate consideration of Calendar No. 457, S. 4216.

The PRESIDING OFFICER. The clerk will report the bill by title.

The legislative clerk read as follows:

A bill (S. 4216) to reauthorize the North Korean Human Rights Act of 2004, and for other purposes.

There being no objection, the Senate proceeded to consider the bill which had been reported from the Committee on Foreign Relations, with an amendment to strike all after the enacting clause and insert in lieu thereof the following:

SECTION 1. SHORT TITLE.

This Act may be cited as the “North Korean Human Rights Reauthorization Act of 2022”.

SEC. 2. FINDINGS.

Congress makes the following findings:

(1) *The North Korean Human Rights Act of 2004 (Public Law 108-333; 22 U.S.C. 7801 et seq.) and subsequent reauthorizations of such Act were the product of broad, bipartisan consensus regarding the promotion of human rights, documentation of human rights violations, transparency in the delivery of humanitarian assistance, and the importance of refugee protection.*

(2) *The human rights and humanitarian conditions within North Korea remain deplorable and have been intentionally perpetuated against the people of North Korea through policies endorsed and implemented by Kim Jong-un and the Workers’ Party of Korea.*

(3) *According to a 2014 report released by the United Nations Human Rights Council’s Commission of Inquiry on Human Rights in the Democratic People’s Republic of Korea, between 80,000 and 120,000 children, women, and men were being held in political prison camps in North Korea, where they were subjected to deliberate starvation, forced labor, executions, torture, rape, forced abortion, and infanticide.*

(4) *North Korea continues to hold a number of South Koreans and Japanese abducted after the signing of the Agreement Concerning a Military Armistice in Korea, signed at Panmunjom July 27, 1953 (commonly referred to as the “Korean War Armistice Agreement”) and refuses to acknowledge the abduction of more than 100,000 South Koreans during the Korean War in violation of the Geneva Convention.*

(5) *Human rights violations in North Korea, which include forced starvation, sexual violence against women and children, restrictions on freedom of movement, arbitrary detention, torture, executions, and enforced disappearances, amount to crimes against humanity according to the United Nations Commission of Inquiry on Human Rights in the Democratic People’s Republic of Korea.*

(6) *The effects of the COVID-19 pandemic and North Korea’s strict lockdown of its borders and crackdowns on informal market activities and small entrepreneurship have drastically increased food insecurity for its people and given rise to famine conditions in parts of the country.*

(7) *North Korea’s COVID-19 border lockdown measures also include shoot-to-kill orders that have resulted in the killing of—*

(A) *North Koreans attempting to cross the border; and*

(B) *at least 1 South Korean citizen in September 2020.*

(8) *The Chinese Communist Party and the Government of the People’s Republic of China are aiding and abetting in crimes against humanity by forcibly repatriating North Korean refugees to North Korea where they are sent to prison camps, harshly interrogated, and tortured or executed.*

(9) *The forcible repatriation of North Korean refugees violates the People’s Republic of China’s freely undertaken obligation to uphold the principle of non-refoulement, under the Convention Relating to the Status of Refugees, done at Geneva July 28, 1951 (and made applicable by*